



**Rules and Regulations  
for the Classification  
of Special Service Craft,  
July 2012**

**Notice No. 4**

Effective Date of Latest  
Amendments:

See page 1

Issue date: February 2013

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# **RULES AND REGULATIONS FOR THE CLASSIFICATION OF SPECIAL SERVICE CRAFT, *July 2012***

## **Notice No. 4**

This Notice contains amendments within the following Sections of the *Rules and Regulations for the Classification of Special Service Craft, July 2012*. The amendments are effective on the dates shown:

| <b><i>Part</i></b> | <b><i>Chapter</i></b> | <b><i>Section</i></b> | <b><i>Effective date</i></b> |
|--------------------|-----------------------|-----------------------|------------------------------|
| 1                  | 2                     | 2                     | 1 July 2013                  |
| 3                  | 1                     | 3,7                   | 1 July 2013                  |
| 3                  | 3                     | 2                     | 1 July 2013                  |
| 3                  | 4                     | 7                     | 1 July 2013                  |
| 5                  | 1                     | 2                     | 1 July 2013                  |
| 6                  | 2                     | 4                     | 1 July 2013                  |
| 7                  | 2                     | 4                     | 1 July 2013                  |
| 8                  | 3                     | 1                     | 1 July 2013                  |
| 8                  | 7                     | 2                     | 1 July 2013                  |

It will be noted that the amendments also include corrigenda, which are effective from the date of this Notice.

The *Rules and Regulations for the Classification of Special Service Craft, July 2012* are to be read in conjunction with this Notice No. 4. The status of the Rules is now:

|                                 |                 |                             |
|---------------------------------|-----------------|-----------------------------|
| Rules for Special Service Craft | Effective date: | July 2012                   |
| Notice No. 1                    | Effective date: | 1 October 2012              |
| Notice No. 2                    | Effective date: | 1 January 2013 & Corrigenda |
| Notice No. 3                    | Effective date: | 1 January 2013 & Corrigenda |
| Notice No. 4                    | Effective date: | 1 July 2013                 |

## Part 1, Chapter 2 and Part 3, Chapter 1

### Part 1, Chapter 2 Classification Regulations

Effective date 1 July 2013

#### ■ Section 2 Scope of the Rules

##### 2.1 Applicable craft types

2.1.2 The following craft types will be considered upon request on the basis of the Rules:

- (a) Amphibious air cushion vehicles.
- (b) Rigid inflatable boats.
- (c) Hydrofoil craft.
- (d) Foil assisted craft.
- ~~(e) Craft as defined 2.1.1(a) to (e) constructed from wood or wood/composite combinations.~~
- ~~(f) Other craft constructed from composite materials.~~
- ~~(g)~~ (e) Craft with a Rule length,  $L_R$ , less than 24 m and draught to depth ratio greater than 0,55.

### Part 3, Chapter 1 General Regulations

Effective date 1 July 2013

#### ■ Section 3 Equivalents

##### 3.1 Alternative arrangements and scantlings

(Part only shown)

3.1.2 Where calculation procedures other than those available ~~within the LR Software Guide~~ from software published by LR are employed, supporting documentation is to be submitted for appraisal and this is to include details of the following:

#### ■ Section 7 Inspection, workmanship and testing procedures

##### 7.3 Testing procedures

Table 1.7.1 Testing requirements (Part only shown)

| Item to be tested    | Testing procedure                                  | Testing requirement   |
|----------------------|--|---|
| Double plate rudders | <del>Structural (4), (5)</del><br>Leak, see Note 5 | <del>2,4 m head of water, and rudder should normally be tested while laid on its side</del> See 7.3.4 |

## Part 3, Chapter 3

### Control Systems

Effective date 1 July 2013

#### Section 2

### Rudders

#### 2.19 Pintles

**Table 3.2.11** Pintle requirements (Part only shown)

| Item   | Requirement |
|--|-------------|
| (1) Pintle diameter (measured outside line if fitted), see Note 2  |             |
| <b>NOTES</b><br>1. Proposals for higher pressures or other materials will be specially considered on the basis of satisfactory test results.<br>2. The length of the pintle housing in the gudgeon is not to be less than the maximum pintle diameter. |             |

**Table 3.2.12** Rudder couplings to stock (Part only shown)

| Arrangement           | Parameter | Requirement   |
|-----------------------|-----------|---|
| (2) Conical couplings | $\bar{p}$ | $\frac{P_R \theta_t \bar{\delta}_{ST} + 4M_T \sqrt{K_2 \left( \left( \frac{P_R \bar{\delta}_{ST}}{2M_T} \right)^2 + 1 \right) - \left( \frac{\theta_t}{2} \right)^2}}{5,66 \bar{\delta}_{ST}^2 l_t \left( K_2 - \left( \frac{\theta_t}{2} \right)^2 \right)}$ |
|                       | $P_u$     | Approximately equal to $2,83 \pi \bar{p} \bar{\delta}_{ST} \left( K_3 + \frac{\theta_t}{2} \right)$   |

#### 2.21 Conical couplings

2.21.1 Where a rudder stock is connected to a rudder by a keyless fitting, the rudder is to be a good fit on the rudder stock cone. During the fit-up, and before the push-up load is applied, an area of contact of at least 90 80 per cent of the theoretical area of contact is to be achieved, and this is to be evenly distributed. The relationship of the rudder to stock at which this occurs is to be marked, and the push-up then measured from that point. The upper edge of the upper mainpiece bore is to have a slight radius. After the final fitting of the stock to the rudder, positive means are to be used for locking the securing nut to the stock.

**Part 3, Chapter 4**  
**Closing Arrangements and Outfit**

Effective date 1 July 2013

■ *Section 7*  
**Portlights, windows and viewing  
ports, skylights and glass walls**

**7.12 Deadlights and storm covers**

*(Part only shown)*

7.12.6 For craft in **Service Groups G4** and **G5**, storm covers or deadlights are required as follows:

- (f) Windows in the shell ~~above Position 2~~, located at least one standard height of superstructure above the lowest Position 2 deck, are to be provided with strong portable internal storm covers for 25 per cent of each ~~window~~ size, with means of securing being provided at each window.

**Part 5, Chapter 1**  
**General**

Effective date 1 July 2013

■ *Section 2*  
**Direct calculations**

~~2.2~~ ~~Special Service Craft Software~~

~~2.2.1~~ — LR's direct calculation procedures and facilities are summarised in a publication entitled the ~~LR Software Guide~~.

~~2.3~~ **2.2 Submission of direct calculations**

*(Part only shown)*

~~2.3.1~~ **2.2.1** In cases where direct calculations have been carried out ~~using procedures available in the LR Software Guide~~, the following supporting information is to be submitted as applicable:

*Existing paragraphs 2.3.2 and 2.3.3 have been renumbered 2.2.2 and 2.2.3.*

## Part 6, Chapter 2

### Construction Procedures

Effective date 1 July 2013

#### ■ Section 4

#### Joints and connections

##### 4.5 Fillet welds

(Part only shown)

4.5.1 The throat thickness of fillet welds is to be determined from:

~~—s— = the length of correctly proportioned weld fillet, clear of end craters, in mm, and is to be 10 × plate thickness,  $t_p$ , or 75 mm, whichever is the lesser, but in no case to be taken less than 40 mm~~

s = the length of correctly proportioned weld fillets, clear of end craters, in mm, and the fillet length is to be 10 × plate thickness or 40 mm, whichever is the greater, but need not exceed 75 mm.

## Part 7, Chapter 2

### Construction Procedures

Effective date 1 July 2013

#### ■ Section 4

#### Joints and connections

##### 4.5 Fillet welds

(Part only shown)

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s = the length of correctly proportioned weld fillets, clear of end craters, in mm, and the fillet length is to be 10 × plate thickness or 40 mm, whichever is the greater, but need not exceed 75 mm.

## Part 8, Chapter 3

## Scantling Determination for Mono-Hull Craft

Effective date 1 July 2013

## Section 1 General

### 1.9 Plate and sandwich laminates

(Part only shown)

1.9.1 Unless otherwise specified in this Part, the bending moments,  $M_b$  and  $M_c$ , to be applied to a 1 cm length of panel, for both plate and sandwich laminates, subjected to lateral pressure are to be determined from:

~~$p$  = design pressure head as required by Part 5, for the element of plate laminate under consideration, in  $\text{kN/m}^2$ .~~

$p$  = for bottom and side shell of craft operating in non-displacement mode the greater of:

- $H_f S_f P_s$ ;
- $K_i H_f S_f C_f P_{dl}$ ;
- $H_f S_f G_f C_f P_f$ ;

in  $\text{kN/m}^2$ , where  $H_f$ ,  $S_f$ ,  $G_f$ ,  $C_f$ ,  $P_s$ ,  $P_{dl}$ ,  $P_f$  are as defined in Pt 5, Ch 3.2, and  $K_i$  as defined in 1.12.

For all other locations the design pressure is to be taken as required by Part 5 for the element of plate laminate under consideration, in  $\text{kN/m}^2$ .

### 1.12 Slamming Pressure Correction

1.12.1 The Rule bending moments,  $M_b$  and  $M_c$ , as determined by 1.9.1, may be reduced for panels subject to impact pressure,  $P_{dl}$ , in crafts operating in the non-displacement mode. For such panels, the following factor,  $K_i$ , may be applied:

$$K_i = 0,18 + \frac{1,8}{16 \left( \frac{A_{pn}}{A_{rf}} \right) + 1,1}$$

but is not to be taken greater than 1 or less than 0,7

$A_{pn}$  = area of plate laminate, in  $\text{m}^2$ , but is not to be taken as

greater than  $2 \left( \frac{s}{1000} \right)^2$

$A_{rf}$  = reference impact pressure area, in  $\text{m}^2$ ,

$$= 0,7 \frac{\Delta}{T}$$

= displacement, in tonnes, as defined in Pt 5, Ch 2.2.2.2

$T$  = draught, in metres, as defined in Pt 3, Ch 1.6.2.9

$s$  is as defined in 1.5.1

Existing sub-Sections 1.12 to 1.31 have been renumbered 1.13 to 1.32.

### 1.14 Mechanical properties sandwich laminates

~~1.13.11~~ 1.14.11 Where the Poisson's ratio,  $\nu_f$ , for a particular facing laminate is known, the deflection,  $\delta$ , of a flat sandwich panel with all edges assumed to be fully fixed, and subjected to a uniform lateral pressure is to be determined from:

$$\delta = \frac{p b^2}{8 t_c} \left( \frac{b^2 (1 - \nu_f^2)}{24 E_{ms} t_s t_c} + \frac{1}{G} \right) \times 10^{-3} \text{ mm}$$

where the mean skin modulus,  $E_{ms}$ , is given by:

$$E_{ms} = \frac{\sum (E_p t_s)}{\sum t_s} \text{ N/mm}^2$$

~~$E_p$  is  $E_{tp}$  or  $E_{ep}$  whichever is the lesser.~~

~~where~~

~~$\nu_f$ ,  $p$ ,  $b$ ,  $t_c$ ,  $t_s$ ,  $E_{tp}$ ,  $E_{ep}$  and  $G$  are as defined in 1.5.1~~

~~and  $E_{ms}$  is the mean modulus of the total skin thicknesses.~~

$$\delta = \frac{p b^2}{8} \left( \frac{b^2 (1 - \nu_f^2)}{48 D_s} k_{db} + \frac{1}{G t_c} k_{ds} \right) \times 10^{-3} \text{ mm}$$

where

$k_{db}$  = bending deflection aspect ratio factor

$$= 1,5 - \frac{1}{A_R} \text{ with } A_R \text{ not to be taken greater than 2}$$

$k_{ds}$  = shear deflection aspect ratio factor

$$= 1,2 - \frac{0,6}{A_R} \text{ with } A_R \text{ not to be taken greater than 3}$$

$A_R$  = panel length/panel breadth

$D_s$  = flexural rigidity of the sandwich panel per unit mm width

$$= \frac{E_{pi} t_{inner} E_{po} t_{outer}}{E_{pi} t_{inner} + E_{po} t_{outer}} (t_c + t_s)^2 \text{ Nmm}$$

$E_{pi}$  is the lesser of  $E_{tps}$  or  $E_{cps}$  of the inner skin

$E_{po}$  is the lesser of  $E_{tps}$  or  $E_{cps}$  of the outer skin

$\nu_f$ ,  $p$ ,  $b$ ,  $t_c$ ,  $t_s$ ,  $E_{tps}$ ,  $E_{cps}$  and  $G$  are as defined in 1.5.1

$t_{inner}$  and  $t_{outer}$  are as defined in 1.7.1.

~~1.13.12~~ 1.14.12 Where the Poisson's Ratio ratio,  $\nu_f$ , for a particular facing laminate is not known, the deflection,  $\delta$ , of a flat sandwich panel with all edges assumed to be fully fixed, and subjected to a uniform lateral pressure is to be estimated from:

$$\delta = \frac{p b^2}{8 t_c} \left( \frac{b^2}{24 E_{ms} t_s t_c} + \frac{1}{G} \right) \times 10^{-3} \text{ mm}$$

where

~~$\delta$ ,  $p$ ,  $b$ ,  $t_c$ ,  $t_s$  and  $G$  are as defined in 1.5.1~~

~~$E_{ms}$  is as defined in 1.13.11.~~

$$\delta = \frac{p b^2}{8} \left( \frac{b^2}{48 D_s} k_{db} + \frac{1}{G t_c} k_{ds} \right) \times 10^{-3} \text{ mm}$$

where

$\delta$ ,  $p$ ,  $b$ ,  $t_c$ , and  $G$  are as defined in 1.5.1

$D_s$ ,  $k_{db}$ ,  $k_{ds}$  are as defined in 1.14.11.



## Part 8, Chapter 7

### Failure Modes Control

Effective date 1 July 2013

#### ■ Section 2

#### Deflection control

##### 2.1 General

2.1.2 Notwithstanding the values in Table 7.2.1, the span/deflection ratio for panels subject to long-term static loading is to be less than 100.

**Table 7.2.1 Limiting span/deflection ratio**  
(Part only shown)

| Item  | $f_{\delta}$   |
|---|--|
| <b>Main/strength deck structures:</b> <ul style="list-style-type: none"> <li>• sandwich construction</li> <li>• secondary stiffening</li> <li>• primary girders and web frames</li> <li>• hatch covers</li> </ul>   | <del>150</del> 100<br>200<br>250<br><del>250</del> 100                             |
| <b>Superstructure/deckhouse laminates:</b> <ul style="list-style-type: none"> <li>(a) Generally: • sandwich construction</li> <li>(b) Coachroof: • sandwich construction</li> <li>(c) House top: • sandwich construction</li> <li>(d) Lower/inner decks and house top subject to personnel loading: <ul style="list-style-type: none"> <li>• sandwich construction</li> </ul> </li> </ul> | <del>100</del> 50<br><del>150</del> 100<br><del>100</del> 50<br><del>150</del> 100 |
| <b>Deep tank structures:</b> <ul style="list-style-type: none"> <li>(a) Laminates: • sandwich construction</li> <li>(b) Stiffeners: <ul style="list-style-type: none"> <li>• secondary members</li> <li>• primary members</li> </ul> </li> </ul>  | <del>150</del> 100<br><del>175</del> 100<br>200                                    |
| <b>Watertight bulkhead structures:</b> <ul style="list-style-type: none"> <li>(a) Laminates: • sandwich construction</li> <li>(b) Stiffeners: <ul style="list-style-type: none"> <li>• secondary members</li> <li>• primary members</li> </ul> </li> </ul>  | <del>100</del> 50<br><del>125</del> 50<br>150                                      |
| <b>Vehicle deck structures:</b> <ul style="list-style-type: none"> <li>(a) Laminates: • sandwich construction</li> <li>(b) Stiffeners: <ul style="list-style-type: none"> <li>• secondary members</li> <li>• primary members</li> </ul> </li> </ul>   | <del>150</del> 100<br>200<br>250   |
| <b>Helicopter/flight decks:</b> <ul style="list-style-type: none"> <li>(a) Laminates: • sandwich construction</li> <li>(b) Stiffeners: <ul style="list-style-type: none"> <li>• secondary members</li> <li>• primary members</li> </ul> </li> </ul>   | <del>150</del> 100<br>200<br>250   |

## Cross-references

Section numbering in brackets reflects any Section renumbering necessitated by any of the Notices that update the current version of the Rules for Special Service Craft.

### Part 8, Chapter 2

|        |  |
|--------|--|
| 2.17.4 | Ch 3, 1.20 <i>now reads</i> Ch 3, 1.21 |
| 2.18.4 | Ch 3, 1.19 <i>now reads</i> Ch 3, 1.20 |
| 2.3.4  | Ch 3, 1.18 <i>now reads</i> Ch 3, 1.19 |
| 5.19.1 | Ch 3, 1.16 <i>now reads</i> Ch 3, 1.17 |

### Part 8, Chapter 3

|                   |                                 |
|-------------------|---------------------------------|
| 1.5.1             | 1.13.4 <i>now reads</i> 1.14.4  |
|                   | 1.13.5 <i>now reads</i> 1.14.5  |
|                   | 1.13.9 <i>now reads</i> 1.14.9  |
| 1.7.1             | 1.15 <i>now reads</i> 1.16      |
| 1.7.2             | 1.15 <i>now reads</i> 1.16      |
| 1.13.1 (1.14.1)   | 1.13.2 <i>now reads</i> 1.14.2  |
| 1.13.10 (1.14.10) | 1.13.9 <i>now reads</i> 1.14.9  |
| 1.14.4 (1.15.4)   | 1.14.3 <i>now reads</i> 1.15.3  |
| 1.15.1 (1.16.1)   | 1.20.3 <i>now reads</i> 1.21.3  |
| 1.16.2 (1.17.2)   | 1.14.3 <i>now reads</i> 1.15.3  |
|                   | 1.14.4 <i>now reads</i> 1.15.4  |
| 1.16.3 (1.17.3)   | 1.16.2 <i>now reads</i> 1.17.2  |
| 1.20.3 (1.21.3)   | 1.15 <i>now reads</i> 1.16      |
| 1.20.3 (1.21.3)   | 1.18 <i>now reads</i> 1.19      |
| 1.23.1 (1.24.1)   | 1.15.1 <i>now reads</i> 1.16.1  |
| 1.24.1 (1.25.1)   | 1.17.51 <i>now reads</i> 1.18.5 |
| 1.24.4 (1.25.4)   | 1.14 <i>now reads</i> 1.15      |
| 1.25.6 (1.26.6)   | 1.16 <i>now reads</i> 1.17      |
| 1.25.7 (1.26.7)   | 1.16 <i>now reads</i> 1.17      |
| 1.25.8 (1.26.8)   | 1.16 <i>now reads</i> 1.17      |
| 3.2.1             | 1.12.6 <i>now reads</i> 1.13.6  |
| 3.3.1             | 1.12.6 <i>now reads</i> 1.13.6  |
| 3.4.2             | 1.12.1 <i>now reads</i> 1.13.1  |
|                   | 1.12.3 <i>now reads</i> 1.13.3  |
|                   | 1.12.4 <i>now reads</i> 1.13.4  |
| 3.4.4             | 1.13.2 <i>now reads</i> 1.14.2  |
|                   | 1.13.9 <i>now reads</i> 1.14.9  |
|                   | 1.13.7 <i>now reads</i> 1.14.7  |
|                   | 1.13.8 <i>now reads</i> 1.14.8  |
| 3.5.2             | 1.12.1 <i>now reads</i> 1.13.1  |
|                   | 1.12.3 <i>now reads</i> 1.13.3  |
|                   | 1.12.4 <i>now reads</i> 1.13.4  |
| 3.5.4             | 1.13.2 <i>now reads</i> 1.14.2  |
|                   | 1.13.9 <i>now reads</i> 1.14.9  |
|                   | 1.13.7 <i>now reads</i> 1.14.7  |
|                   | 1.13.8 <i>now reads</i> 1.14.8  |
| 4.2.1             | 1.14 <i>now reads</i> 1.15      |
| 4.4.4             | 1.14 <i>now reads</i> 1.15      |
| 4.5.4             | 1.14 <i>now reads</i> 1.15      |
| 4.6.2             | 1.14 <i>now reads</i> 1.15      |
| 4.7.2             | 1.14 <i>now reads</i> 1.15      |
| 4.8.3             | 1.14 <i>now reads</i> 1.15      |
| 4.9.4             | 1.14 <i>now reads</i> 1.15      |
| 4.10.4            | 1.14 <i>now reads</i> 1.15      |
| 4.11.2            | 1.14 <i>now reads</i> 1.15      |
| 4.12.2            | 1.14 <i>now reads</i> 1.15      |
| 4.13.3            | 1.14 <i>now reads</i> 1.15      |
| 4.19.5            | 1.14 <i>now reads</i> 1.15      |
| 5.2.4             | 1.16 <i>now reads</i> 1.17      |
| 5.3.5             | 1.16 <i>now reads</i> 1.17      |
| 5.4.4             | 1.16 <i>now reads</i> 1.17      |

|        |                                |
|--------|--------------------------------|
| 5.6.5  | 1.18 <i>now reads</i> 1.19     |
| 5.7.4  | 1.29 <i>now reads</i> 1.30     |
| 6.3.1  | 1.16 <i>now reads</i> 1.17     |
| 6.4.4  | 1.16 <i>now reads</i> 1.17     |
| 6.6.2  | 1.16 <i>now reads</i> 1.17     |
| 6.9.3  | 1.12.1 <i>now reads</i> 1.13.1 |
|        | 1.12.3 <i>now reads</i> 1.13.3 |
|        | 1.12.4 <i>now reads</i> 1.13.4 |
| 6.9.5  | 1.13.2 <i>now reads</i> 1.14.2 |
|        | 1.13.7 <i>now reads</i> 1.14.7 |
|        | 1.13.8 <i>now reads</i> 1.14.8 |
|        | 1.13.9 <i>now reads</i> 1.14.9 |
| 6.10.4 | 1.14 <i>now reads</i> 1.15     |
| 6.11.3 | 1.14 <i>now reads</i> 1.15     |
| 7.1.3  | 1.18 <i>now reads</i> 1.19     |
| 7.3.3  | 1.12.1 <i>now reads</i> 1.13.1 |
|        | 1.12.3 <i>now reads</i> 1.13.3 |
|        | 1.12.4 <i>now reads</i> 1.13.4 |
| 7.3.5  | 1.13.2 <i>now reads</i> 1.14.2 |
|        | 1.13.9 <i>now reads</i> 1.14.9 |
|        | 1.13.7 <i>now reads</i> 1.14.7 |
|        | 1.13.8 <i>now reads</i> 1.14.8 |
| 7.3.8  | 1.14 <i>now reads</i> 1.15     |
| 7.3.10 | 1.15 <i>now reads</i> 1.16     |
| 7.4.3  | 1.12.1 <i>now reads</i> 1.13.1 |
|        | 1.12.3 <i>now reads</i> 1.13.3 |
|        | 1.12.4 <i>now reads</i> 1.13.4 |
| 7.4.5  | 1.13.2 <i>now reads</i> 1.14.2 |
|        | 1.13.7 <i>now reads</i> 1.14.7 |
|        | 1.13.8 <i>now reads</i> 1.14.8 |
|        | 1.13.9 <i>now reads</i> 1.14.9 |
| 7.4.8  | 1.14 <i>now reads</i> 1.15     |
| 7.4.10 | 1.15 <i>now reads</i> 1.16     |
| 8.3.2  | 1.12.1 <i>now reads</i> 1.13.1 |
|        | 1.12.3 <i>now reads</i> 1.13.3 |
|        | 1.12.4 <i>now reads</i> 1.13.4 |
| 8.3.4  | 1.13.2 <i>now reads</i> 1.14.2 |
|        | 1.13.7 <i>now reads</i> 1.14.7 |
|        | 1.13.8 <i>now reads</i> 1.14.8 |
|        | 1.13.9 <i>now reads</i> 1.14.9 |
| 8.4.2  | 1.12.1 <i>now reads</i> 1.13.1 |
|        | 1.12.3 <i>now reads</i> 1.13.3 |
|        | 1.12.4 <i>now reads</i> 1.13.4 |
| 8.4.4  | 1.13.2 <i>now reads</i> 1.14.2 |
|        | 1.13.7 <i>now reads</i> 1.14.7 |
|        | 1.13.8 <i>now reads</i> 1.14.8 |
|        | 1.13.9 <i>now reads</i> 1.14.9 |
| 8.6.2  | 1.12.1 <i>now reads</i> 1.13.1 |
|        | 1.12.3 <i>now reads</i> 1.13.3 |
|        | 1.12.4 <i>now reads</i> 1.13.4 |
| 8.6.4  | 1.13.2 <i>now reads</i> 1.14.2 |
|        | 1.13.7 <i>now reads</i> 1.14.7 |
|        | 1.13.8 <i>now reads</i> 1.14.8 |
|        | 1.13.9 <i>now reads</i> 1.14.9 |
| 8.8.1  | 1.14 <i>now reads</i> 1.15     |
| 8.8.2  | 1.14 <i>now reads</i> 1.15     |
| 8.8.4  | 1.15 <i>now reads</i> 1.16     |
| 8.9.1  | 1.14 <i>now reads</i> 1.15     |
| 8.9.3  | 1.15 <i>now reads</i> 1.16     |
| 8.11.1 | 1.14 <i>now reads</i> 1.15     |
| 8.11.3 | 1.15 <i>now reads</i> 1.16     |
| 9.3.2  | 1.12.1 <i>now reads</i> 1.13.1 |
|        | 1.12.3 <i>now reads</i> 1.13.3 |
|        | 1.12.4 <i>now reads</i> 1.13.4 |

|        |  |                          |  |
|--------|--|--------------------------|--|
| 9.3.4  | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 | 9.25.5                   | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 |
| 9.4.2  | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   | 9.25.7                   | 1.14 <i>now reads</i> 1.15   |
| 9.4.4  | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 | 9.25.9                   | 1.15 <i>now reads</i> 1.16   |
| 9.5.2  | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   | <b>Part 8, Chapter 4</b> |  |
| 9.5.4  | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 | 3.3.3                    | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   |
| 9.6.2  | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   | 3.5.4                    | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   |
| 9.6.4  | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 | 3.5.6                    | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 |
| 9.7.2  | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   | 3.7.3                    | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   |
| 9.7.4  | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 | 3.7.5                    | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 |
| 9.8.2  | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   | 4.2.4                    | 1.14 <i>now reads</i> 1.15   |
| 9.8.4  | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 | 4.3.4                    | 1.14 <i>now reads</i> 1.15   |
| 9.10.1 | 1.14 <i>now reads</i> 1.15   | 4.4.2                    | 1.14 <i>now reads</i> 1.15   |
| 9.10.2 | 1.14 <i>now reads</i> 1.15   | 4.5.2                    | 1.14 <i>now reads</i> 1.15   |
| 9.10.4 | 1.15 <i>now reads</i> 1.16   | 4.6.3                    | 1.14 <i>now reads</i> 1.15   |
| 9.11.1 | 1.14 <i>now reads</i> 1.15   | 4.12.4                   | 1.14 <i>now reads</i> 1.15   |
| 9.11.2 | 1.14 <i>now reads</i> 1.15   | 4.13.4                   | 1.14 <i>now reads</i> 1.15   |
| 9.11.4 | 1.15 <i>now reads</i> 1.16   | 4.14.2                   | 1.14 <i>now reads</i> 1.15   |
| 9.12.1 | 1.14 <i>now reads</i> 1.15   | 4.15.2                   | 1.14 <i>now reads</i> 1.15   |
| 9.12.2 | 1.14 <i>now reads</i> 1.15   | 4.16.3                   | 1.14 <i>now reads</i> 1.15   |
| 9.12.4 | 1.15 <i>now reads</i> 1.16   | 4.22.4                   | 1.14 <i>now reads</i> 1.15   |
| 9.13.2 | 1.14 <i>now reads</i> 1.15   | 4.23.4                   | 1.14 <i>now reads</i> 1.15   |
| 9.13.3 | 1.14 <i>now reads</i> 1.15   | 4.24.2                   | 1.14 <i>now reads</i> 1.15   |
| 9.13.5 | 1.15 <i>now reads</i> 1.16   | 4.25.2                   | 1.14 <i>now reads</i> 1.15   |
| 9.14.1 | 1.14 <i>now reads</i> 1.15   | 4.26.3                   | 1.14 <i>now reads</i> 1.15   |
| 9.14.2 | 1.14 <i>now reads</i> 1.15   | 5.3.4                    | 1.16 <i>now reads</i> 1.17   |
| 9.14.4 | 1.15 <i>now reads</i> 1.16   | 5.4.4                    | 1.16 <i>now reads</i> 1.17   |
| 9.15.1 | 1.14 <i>now reads</i> 1.15   | 5.5.4                    | 1.16 <i>now reads</i> 1.17   |
| 9.15.2 | 1.14 <i>now reads</i> 1.15   | 6.3.1                    | 1.16 <i>now reads</i> 1.17   |
| 9.15.6 | 1.15 <i>now reads</i> 1.16   | 6.4.4                    | 1.16 <i>now reads</i> 1.17   |
| 9.16.1 | 1.14 <i>now reads</i> 1.15   | 6.5.2                    | 1.16 <i>now reads</i> 1.17   |
| 9.16.2 | 1.14 <i>now reads</i> 1.15   | 8.4.2                    | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   |
| 9.16.4 | 1.15 <i>now reads</i> 1.16   | 8.4.4                    | 1.13.2 <i>now reads</i> 1.14.2<br>1.13.9 <i>now reads</i> 1.14.9<br>1.13.7 <i>now reads</i> 1.14.7<br>1.13.8 <i>now reads</i> 1.14.8 |
| 9.20.3 | 1.15 <i>now reads</i> 1.16   | 8.5.1                    | 1.14 <i>now reads</i> 1.15   |
| 9.25.3 | 1.12.1 <i>now reads</i> 1.13.1<br>1.12.3 <i>now reads</i> 1.13.3<br>1.12.4 <i>now reads</i> 1.13.4                                   | 8.5.2                    | 1.14 <i>now reads</i> 1.15   |
|        |  | 8.5.4                    | 1.15 <i>now reads</i> 1.16   |

## Cross-references

### Part 8, Chapter 5

6.3.2                      1.18 *now reads* 1.19

### Part 8, Chapter 7

3.5.1                      1.13.9 *now reads* 1.14.9

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